

## Sequence Listing

<110> Sumitomo Chemical Co. Ltd.

<120> Protein capable of catalyzing transamination stereoselectively, gene  
encoding said protein and use thereof

<130>

<150> JP 11/075511

<151> 1999-03-19

<150> JP 11/088634

<151> 1999-03-30

<160> 10

<210> 1

<211> 339

<212> PRT

<213> Mycobacterium aurum SC-S423

<400>

Met Thr Ala Leu Ser Asp Leu Gly Thr Ser Asn Leu Val Ala Val Glu

5

10

15

Pro Gly Ala Ile Arg Glu Asp Thr Pro Ala Gly Ser Val Ile Gln Tyr

20

25

30

Ser Asp Tyr Glu Leu Asp Thr Ser Ser Pro Phe Ala Gly Gly Val Ala

35

40

45

Trp Ile Glu Gly Glu Tyr Leu Pro Ala Glu Glu Ala Lys Ile Ser Ile

50

55

60

Phe Asp Thr Gly Phe Gly His Ser Asp Leu Thr Tyr Thr Val Ala His

65

70

75

80

Val Trp His Gly Asn Ile Phe Arg Leu Gly Asp His Leu Asp Arg Leu

85

90

95

Leu Asp Gly Ala Ser Lys Leu Arg Leu Asp Ala Gly Tyr Ser Lys Asp

100

105

110

Glu Leu Ala Glu Ile Thr Lys Lys Cys Val Ser Met Ser Gln Leu Arg

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115	120	125	
Glu Ser Phe Val Asn Leu Thr Val Thr Arg Gly Tyr Gly Lys Arg Lys			
130	135	140	
Gly Glu Lys Asp Leu Ser Lys Leu Thr His Gln Val Tyr Ile Tyr Ala			
145	150	155	160
Ile Pro Tyr Leu Trp Ala Phe Pro Pro Ala Glu Gln Ile Phe Gly Thr			
165	170	175	
Thr Ala Ile Val Pro Arg His Val Arg Arg Ala Gly Arg Asn Thr Val			
180	185	190	
Asp Pro Thr Ile Lys Asn Tyr Gln Trp Gly Asp Leu Thr Ala Ala Ser			
195	200	205	
Phe Glu Ala Lys Asp Arg Gly Ala Arg Thr Ala Ile Leu Leu Asp Ser			
210	215	220	
Asp Asn Cys Val Ala Glu Gly Pro Gly Phe Asn Val Cys Ile Val Lys			
225	230	235	240
Asp Gly Lys Leu Ala Ser Pro Ser Arg Asn Ala Leu Pro Gly Ile Thr			
245	250	255	

Arg Lys Thr Val Phe Glu Leu Ala Asp Gln Met Gly Ile Glu Ala Thr

260

265

270

Leu Arg Asp Val Thr Ser Arg Glu Leu Tyr Asp Ala Asp Glu Leu Met

275

280

285

Ala Val Thr Thr Ala Gly Gly Val Thr Pro Ile Asn Ser Leu Asp Gly

290

295

300

Glu Ala Val Gly Asn Gly Glu Pro Gly Pro Leu Thr Val Ala Ile Arg

305

310

315

320

Asp Arg Phe Trp Ala Leu Met Asp Glu Pro Gly Pro Leu Ile Glu Thr

325

330

335

Ile Glu Tyr

339

<210> 2

<211> 1020

<212> DNA

<213> Mycobacterium aurum SC-S423

<220>

<221> CDS

<222> (1)..(1020)

<400> 2

atg act gct ctt tca gac ctc ggc acc tcc aac ctg gtg gcc gtc gag 48

Met Thr Ala Leu Ser Asp Leu Gly Thr Ser Asn Leu Val Ala Val Glu

1

5

10

15

ccc ggc gcc atc cgc gag gac acc ccg gcc ggc tcg gtg atc cag tac 96

Pro Gly Ala Ile Arg Glu Asp Thr Pro Ala Gly Ser Val Ile Gln Tyr

20

25

30

agc gac tac gaa ctg gac acc tcc agc ccg ttc gcc ggc ggc gtc gcc 144

Ser Asp Tyr Glu Leu Asp Thr Ser Ser Pro Phe Ala Gly Gly Val Ala

35

40

45

tgg atc gag ggc gaa tac ctg ccg gcc gaa gaa gcg aag atc tcc atc 192

Trp Ile Glu Gly Glu Tyr Leu Pro Ala Glu Glu Ala Lys Ile Ser Ile

50

55

60

ttc gac acc gga ttc ggt cat tcc gat ctg acc tac acc gtc gcg cat 240

Phe Asp Thr Gly Phe Gly His Ser Asp Leu Thr Tyr Thr Val Ala His

65

70

75

80

gta tgg cac ggc aac atc ttc cgg ctc ggc gac cac ctg gac cgg ttg 288

Val Trp His Gly Asn Ile Phe Arg Leu Gly Asp His Leu Asp Arg Leu

85

90

95

ctc gac ggg gcg tcc aag ctg cgc ctg gac gcc ggg tac agc aag gac 336

Leu Asp Gly Ala Ser Lys Leu Arg Leu Asp Ala Gly Tyr Ser Lys Asp

100

105

110

gaa ctg gcc gag atc acc aag aag tgc gtg tgc atg tgc cag ctg cgc 384

Glu Leu Ala Glu Ile Thr Lys Lys Cys Val Ser Met Ser Gln Leu Arg

115

120

125

gaa tgc ttc gtg aat ctg acc gtc acc cgg gga tac gga aag cgc aag 432

Glu Ser Phe Val Asn Leu Thr Val Thr Arg Gly Tyr Gly Lys Arg Lys

130

135

140

ggc gag aag gac ctg tcc aag ctc acc cat cag gtg tac atc tac gcc 480

Gly Glu Lys Asp Leu Ser Lys Leu Thr His Gln Val Tyr Ile Tyr Ala

145

150

155

160

atc ccg tac ctg tgg gcc ttc ccg ccc gcc gag cag atc ttc ggc acc 528

Ile Pro Tyr Leu Trp Ala Phe Pro Pro Ala Glu Gln Ile Phe Gly Thr

165

170

175

acc gcg atc gtg ccg cgc cat gtc cgc cgc gcc ggc cgc aac acc gtc 576

Thr Ala Ile Val Pro Arg His Val Arg Arg Ala Gly Arg Asn Thr Val

180

185

190

gac ccg acc atc aag aac tac cag tgg ggt gat ctc acc gca gcc agt 624

Asp Pro Thr Ile Lys Asn Tyr Gln Trp Gly Asp Leu Thr Ala Ala Ser

195

200

205

ttc gaa gcc aag gac cgt ggt gcg cgc acc gcg atc ctg ctc gac tcg 672

Phe Glu Ala Lys Asp Arg Gly Ala Arg Thr Ala Ile Leu Leu Asp Ser

210

215

220

gac aac tgc gtg gcc gaa ggt ccg ggc ttc aac gtg tgc atc gtc aag 720

Asp Asn Cys Val Ala Glu Gly Pro Gly Phe Asn Val Cys Ile Val Lys

225

230

235

240

gac ggc aag ctg gcc tcc ccg tcc cgg aac gcg ttg ccg ggc atc acc 768

Asp Gly Lys Leu Ala Ser Pro Ser Arg Asn Ala Leu Pro Gly Ile Thr



<222> 4

<220>

<221> unsure

<222> 9

<400> 3

Thr Ala Leu Xaa Asp Leu Gly Thr Xaa Asn Leu Val Ala Val Glu Pro

5

10

15

Gly Ala

18

<210> 4

<211> 17

<212> PRT

<213> Mycobacterium aurum SC-S423

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245

250

255

cgt aag acg gtg ttc gaa ctg gcc gac cag atg ggc atc gaa gcc acc 816

Arg Lys Thr Val Phe Glu Leu Ala Asp Gln Met Gly Ile Glu Ala Thr

260

265

270

ctg cgc gac gtc acc agc cgt gaa ctc tac gac gcc gac gag ttg atg 864

Leu Arg Asp Val Thr Ser Arg Glu Leu Tyr Asp Ala Asp Glu Leu Met

275

280

285

gcg gtc acc acc gcg ggc ggg gtc aca ccg atc aac tcg ctg gat ggc 912

Ala Val Thr Thr Ala Gly Gly Val Thr Pro Ile Asn Ser Leu Asp Gly

290

295

300

gag gcc gtg ggc aac ggc gag ccc ggt cca ctg acg gtg gcc atc cgg 960

Glu Ala Val Gly Asn Gly Glu Pro Gly Pro Leu Thr Val Ala Ile Arg

305

310

315

320

gac cgg ttc tgg gcg ctg atg gac gag ccg ggc ccg ctg atc gaa acg 1008

Asp Arg Phe Trp Ala Leu Met Asp Glu Pro Gly Pro Leu Ile Glu Thr

325

330

335

atc gaa tac tga

1020

Ile Glu Tyr

340

<210> 3

<211> 18

<212> PRT

<213> Mycobacterium aurum SC-S423

<220>

<221> unsure

<210> 6

<211> 38

<212> DNA

<213> Artificial Sequence

<220> }

<223> Designed oligonucleotide primer for PCR

<220>

<221> modified base

<222> 12

<223> n=i

<220>

<221> modified base

<222> 18

<223> n=i

<400> 4

Ile Ser Ile Phe Asp Thr Gly Phe Gly Ala Ser Asp Leu Thr Tyr Thr

5

10

15

Val

17

<210> 5

<211> 19

<212> PRT

<213> Mycobacterium aurum SC-S423

<400> 5

Asp Arg Phe Trp His Leu Met Asp Glu Pro Gly Pro Leu Ile Glu Thr

5

10

15

Ile Glu Tyr

19

<400> 6

ttygayacsg gittcggigc stcsgaycts acstayac 38

<210> 7

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> Designed oligonucleotide primer for PCR

<400> 7

ccsggctcgt ccatsagrtg ccagaascgr tc 32

<210> 8

<211> 17

<212> DNA

<213> Artificial Sequence

<220>

<223> Designed oligonucleotide primer for PCR

<400> 8

gagccggaag atgttgc 17

<210> 9

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Designed oligonucleotide primer for PCR

<400> 9

ccaccctgcg cgacgtcacc agcc 24

<210> 10

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Designed oligonucleotide primer for PCR

<400> 10

tctacgacgc cgacgagttg atgg 24

<210> 11

<211> 32

<212> DNA

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<213> Artificial Sequence

<220>

<223> Designed oligonucleotide primer for PCR

<400> 11

tgccatggct gctctttcag acctcggcac ct 32

<210> 12

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> Designed oligonucleotide primer for PCR

<400> 12

gcggatccac tcagtattcg atcgtttcga tc 32

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